

1 What is claimed is:

- 2 1. An image enhancement method using face detection algorithms, comprising:
3 automatically detecting human faces in an image using face detection algorithms;
4 automatically locating the human faces in the image; and
5 automatically enhancing an appearance of the image based on the human faces in the
6 image.
- 7 2. The method of claim 1, wherein the enhancing step includes automatically enhancing
8 lightness levels of the human faces.
- 9 3. The method of claim 1, wherein the enhancing step includes automatically enhancing
10 contrast levels of the human faces.
- 11 4. The method of claim 1, wherein the enhancing step includes automatically enhancing
12 color levels of the human faces.
- 13 5. The method of claim 1, wherein the locating step includes automatically locating eyes in
14 the human faces.
- 15 6. The method of claim 5, wherein the enhancing step comprises:
16 automatically determining if there exists a red eye artifact; and
17 reducing or removing the red eye artifact from the human faces.
- 18 7. The method of claim 1, wherein the enhancing step includes using a mapping technique
19 to produce the image with target levels for a mean value or a variation value.
- 20 8. An apparatus for enhancing an image using face detection algorithms, comprising:
21 a module for automatically detecting human faces in an image using face detection
22 algorithms;
23 a module for automatically locating the human faces in the image; and
24 a module for automatically enhancing an appearance of the image based on the human
25 faces in the image.
- 26 9. The apparatus of claim 8, wherein the image is a digital image.
- 27 10. The apparatus of claim 8, wherein the module for enhancing the appearances of the image
28 includes a module for automatically enhancing lightness levels of the human faces.
- 29 11. The apparatus of claim 8, wherein the module for enhancing the appearances of the image
30 includes a module for automatically enhancing contrast levels of the human faces.

12. The apparatus of claim 8, wherein the module for enhancing the appearances of the image includes a module for automatically enhancing color levels of the human faces.

13. The apparatus of claim 8, wherein the module for locating the human faces includes a module for automatically locating eyes in the human faces.

14. The apparatus of claim 13, wherein the module for enhancing the appearances of the image comprises:

a module for automatically determining if there exists a red eye artifact; and

a module for reducing or removing the red eye artifact from the human faces.

15. A computer readable medium comprising instructions for image enhancement using face detection, the instructions comprising:

automatically detecting human faces in an image using face detection algorithms;

automatically locating the human faces in the image; and

automatically enhancing an appearance of the image based on the human faces in the image.

16. The computer readable medium of claim 15, wherein the instructions for enhancing the appearance of the image include automatically enhancing lightness levels of the human faces.

17. The computer readable medium of claim 15, wherein the instructions for enhancing the appearance of the image include automatically enhancing contrast levels of the human faces.

18. The computer readable medium of claim 15, wherein the instructions for enhancing the appearance of the image includes automatically enhancing color levels of the human faces.

19. The computer readable medium of claim 15, wherein the instructions for locating the human faces include automatically locating eyes in the human faces.

20. The computer readable medium of claim 19, wherein the instructions for enhancing the appearance of the image comprises:

automatically determining if there exists a red eye artifact; and

reducing or removing the red eye artifact of the human faces.